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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

THOMPSON, TIMOTHY J

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 04/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/688,876

Applicant(s)

HIRA, YASUO

Examiner

Timothy J Thompson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 6-8 and 32 is/are allowed.
- 6) ☐ Claim(s) 1-5, 9-13, 22-26 and 30 is/are rejected.
- 7) ☒ Claim(s) 14-21, 27-29 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 17 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Informalities

Claims 31 and 32 are multiple dependant claims with the claim numbers they depend from being listed at the end of the claim. Typically the claims from which a multiple dependant claim depends from are listed at the beginning of the claim (for example "32. A rear projection apparatus comprising, an optical film of any one of claims 1-29,"). The examiner would appreciate it if the attorney would please rewrite claims 31 and 32 so as to include the dependant claim numbers at the beginning of the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakata (Japanese Patent 05224243A).

Regarding claim 1, Sakata discloses an optical element capable of forming spatial distribution of light transmittance(fig 1, 5), and a light shield layer positioned on an opposite side of the optical element(fig 1, 3), the light shield layer being composed of a compound which changes light transmittance depending on irradiation of an energy beam, wherein the light transmittance passing the light shield layer is modulated spatially depending on a dose of energy beam(abstract).

Regarding claim 22, discloses the optical film takes a shape of a film or a substrate(fig 1, 3).

Claim 30 is rejected under 35 U.S.C. 102(e) as being anticipated by Kimura et al.(U.S. Patent No. 6,195,196 B1).

Regarding claims 30, Kimura et al. discloses a liquid crystal cell, a rear illumination means for emitting collimate rays(fig 29, 127), and an optical film(fig 29, 127, wherein the liquid crystal cell(fig 29, 3, 5, 9) is sandwiched between the rear illumination means and the optical film(fig 29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakata (Japanese Patent 05224243A) in view of Reid et al.(U.S. Patent No. 5,256,337).

Regarding claim 2, Sakata discloses an optical element capable of forming spatial distribution of light transmittance(fig 1, 5), and a light shield layer positioned on an opposite side of the optical element(fig 1, 3), the light shield layer being composed of a compound which changes light transmittance depending on irradiation of an energy beam, wherein the light transmittance passing the light shield layer is modulated spatially depending on a dose of energy beam(abstract). Sakata, does not disclose a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver. However, Reid et al. discloses a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 3, lines 9-24). It would have been obvious to one skilled in the art, at the time of the invention, to use a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 16, lines 20 to 24), as shown by Reid et al., in the display of Sakata, since as shown by Reid et al., a light shield layer, composed of a gelatin material dispersing therein at least silver or a compound containing silver, is commonly used in displays for blocking light passing through the display.

Regarding claim 3, Sakata discloses an optical element capable of forming spatial distribution of light transmittance(fig 1, 5), and a light shield layer positioned on an opposite side of the optical element(fig 1, 3), the light shield layer being composed of

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a compound which changes light transmittance depending on irradiation of an energy beam, wherein the light transmittance passing the light shield layer is modulated spatially depending on a dose of energy beam(abstract). Sakata, does not disclose a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver, the light shield layer is modulated spatially depending on a concentration of silver contained in the light shield layer. However, Reid et al. discloses a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 3, lines 9-24), the light shield layer is modulated spatially depending on a concentration of silver contained in the light shield layer(this is inherent since the light shield layer is formed from silver halide suspended in a gelatin). It would have been obvious to one skilled in the art, at the time of the invention, to use a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 16, lines 20 to 24), as shown by Reid et al., in the display of Sakata, since as shown by Reid et al., a light shield layer, composed of a gelatin material dispersing therein at least silver or a compound containing silver wherein, the light shield layer is modulated spatially depending on a concentration of silver contained in the light shield layer, is commonly used in displays for blocking light passing through the display.

Regarding claim 4, Sakata discloses an optical element capable of forming spatial distribution of light transmittance(fig 1, 5), and a light shield layer positioned on an opposite side of the optical element(fig 1, 3), the light shield layer being composed of a compound which changes light transmittance depending on irradiation of an energy

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beam, wherein the light transmittance passing the light shield layer is modulated spatially depending on a dose of energy beam(abstract). Sakata, does not disclose a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver wherein by irradiating the light shield layer with an energy beam, a silver concentration in an irradiated region is made smaller than that in a non-irradiated region. However, Reid et al. discloses a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 3, lines 9-24) wherein by irradiating the light shield layer with an energy beam, a silver concentration in an irradiated region is made smaller than that in a non-irradiated region (since a compound containing at least silver halide is used for the light blocking layer of Sakata, this limitation is inherently met).. It would have been obvious to one skilled in the art, at the time of the invention, to use a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 16, lines 20 to 24), as shown by Reid et al., in the display of Sakata, since as shown by Reid et al., a light shield layer, composed of a gelatin material dispersing therein at least silver or a compound containing silver, wherein a silver concentration in an irradiated region is made smaller than that in a non-irradiated region, is commonly used in displays for blocking light passing through the display.

Regarding claim 5, Sakata discloses an optical element capable of forming spatial distribution of light transmittance(fig 1, 5), and a light shield layer positioned on an opposite side of the optical element(fig 1, 3), the light shield layer being composed of

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a compound which changes light transmittance depending on irradiation of an energy beam, wherein the light transmittance passing the light shield layer is modulated spatially depending on a dose of energy beam(abstract). Sakata, does not disclose a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver wherein and a photosensitive material containing a silver halide which has a property of making a silver concentration in a region irradiated by an energy beam smaller than that in a non-irradiated region. However, Reid et al. discloses a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 3, lines 9-24) wherein and a photosensitive material containing a silver halide which has a property of making a silver concentration in a region irradiated by an energy beam smaller than that in a non-irradiated region(since a compound containing at least silver halide is used for the light blocking layer of Sakata, this limitation is inherently met). It would have been obvious to one skilled in the art, at the time of the invention, to use a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 16, lines 20 to 24), as shown by Reid et al., in the display of Sakata, since as shown by Reid et al., a light shield layer, composed of a gelatin material dispersing therein at least silver or a compound containing silver, is commonly used in displays for blocking light passing through the display.

Regarding claims 23-26, discloses the optical film takes a shape of a film or a substrate(fig 1, 3).

Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reid et al.(U.S. Patent No. 5,256,337) in view of Lea et al. (U.S. Patent No. 5,551,042).

Regarding claims 9-13, Reid et al. discloses an optical element capable of forming spatial distribution of light transmittance(col 2, 35-39), and a light shield layer positioned on an opposite side of the optical element(lines 33-37), the light shield layer being composed of a compound which changes light transmittance depending on irradiation of an energy beam, wherein the light transmittance passing the light shield layer is modulated spatially depending on a dose of energy beam(col 3, lines 8-23 and col 4, line 66 to col 5 line 5), a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 3, lines 9-24), the light shield layer is modulated spatially depending on a concentration of silver contained in the light shield layer(this is inherent since the light shield layer is formed from silver halide suspended in a gelatin), irradiating the light shield layer with an energy beam, a silver concentration in an irradiated region is made smaller than that in a non-irradiated region (since a compound containing at least silver halide is used for the light blocking layer of Reid et al., this limitation is inherently met), and a photosensitive material containing a silver halide which has a property of making a silver concentration in a region irradiated by an energy beam smaller than that in a non-irradiated region(since a compound containing at least silver halide is used for the light blocking layer of Reid et al., this limitation is inherently met). Reid et al. does not disclose the optical element is a micro lens array, However, Lea et al. discloses a skylight which is an optical element formed from a micro lens array(col 1, lines 40-60). It would have been obvious to one

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skilled in the art, at the time of the invention, to use a skylight, where the optical element is a micro lens array, as shown by Lea et al., in conjunction with the photochromic material of Reid et al., since as shown by Reid et al., skylights are commonly coated with electrochromic material(col 2, lines 33-39) for controlling the intensity of the light passing through the skylight.

Claim 31/30/1, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1) in view of Sakata (Japanese Patent 05224243A) .

Regarding claims 31/30/1, Kimura et al. discloses a liquid crystal cell, a rear illumination means for emitting collimate rays(fig 29, 127), and an optical film(fig 29, 127, wherein the liquid crystal cell(fig 29, 3, 5, 9) is sandwiched between the rear illumination means and the optical film(fig 29). Kirmura et al. does not disclose the screen being composed of an optical film of any one of claim 1. However, Sakata, as disclosed above in claim rejection 1, discloses the screen being composed of an optical film as disclosed in claim1. It would have been obvious to one skilled in the art at the time of the invention, to form the screen from an optical film as disclosed in claim rejection 1, since screens are commonly formed form this type of optical films.

Claim 31/30/2-5, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1) in view of Sakata

(Japanese Patent 05224243A) and further in view of Reid et al.(U.S. Patent No. 5,256,337).

Regarding claims 32/30/2-5, 22-26, Kimura et al. discloses a liquid crystal cell, a rear illumination means for emitting collimate rays(fig 29, 127), and an optical film(fig 29, 127, wherein the liquid crystal cell(fig 29, 3, 5, 9) is sandwiched between the rear illumination means and the optical film(fig 29). Kirmura et al. does not disclose the screen being composed of an optical film of any one of claims 2-5, 23-26. However, Sakata in view of Reid et al., as disclosed above in claim rejections 2-5, 23-26 above, discloses the screen being composed of an optical film of any one of claims 2-5, 23-26. It would have been obvious to one skilled in the art at the time of the invention, to form the screen from an optical film disclosed in claim rejections 2-5 and 23-26, since screens are commonly formed from these type of optical films.

Claim 31/30/9-13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1) and further in view of Reid et al.(U.S. Patent No. 5,256,337) and Lea et al. (U.S. Patent No. 5,551,042) as detailed in claim rejection 9-13 above.

Regarding claims 31/30/9-13, Kimura et al. discloses a projector(fig 29) containing a light source and a liquid crystal cell(fig 28, 143), a mirror for reflecting a light(fig 28, 147) from the projector, and a screen(fig 28, 123) for projecting the light reflected by the mirror, Kirmura et al. does not disclose the screen being composed of an optical film of any one of claim 9-13. However, Reid et al. in view of Lea et al., as disclosed in claim rejections 9-13 above, discloses the screen being composed of an

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optical film as disclosed in claims 9-13. It would have been obvious to one skilled in the art at the time of the invention, to form the screen from an optical film as disclosed in claim rejections 9-13, since screens are commonly formed from these types of optical films.

Claim 32/1, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1) in view of Sakata (Japanese Patent 05224243A).

Regarding claims 32/1, Kimura et al. discloses a projector(fig 29) containing a light source and a liquid crystal cell(fig 28, 143), a mirror for reflecting a light(fig 28, 147) from the projector, and a screen(fig 28, 123) for projecting the light reflected by the mirror, Kimura et al. does not disclose the screen being composed of an optical film of any one of claim 1. However, Sakata, as disclosed above in claim rejection 1, discloses the screen being composed of an optical film as disclosed in claim 1. It would have been obvious to one skilled in the art at the time of the invention, to form the screen from an optical film as disclosed in claim rejection 1, since screens are commonly formed from this type of optical films.

Claim 32/2-5, 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1) in view of Sakata (Japanese Patent 05224243A) and further in view of Reid et al.(U.S. Patent No. 5,256,337).

Regarding claims 32/30/2-5, 22-26, Kimura et al. discloses a projector(fig 29) containing a light source and a liquid crystal cell(fig 28, 143), a mirror for reflecting a light(fig 28, 147) from the projector, and a screen(fig 28, 123) for projecting the light reflected by the mirror. Kimura et al. does not disclose the screen being composed of an optical film of any one of claims 2-5, 23-26. However, Sakata in view of Reid et al., as disclosed above in claim rejections 2-5, 23-26 above, discloses the screen being composed of an optical film of any one of claims 2-5, 23-26. It would have been obvious to one skilled in the art at the time of the invention, to form the screen from an optical film disclosed in claim rejections 2-5 and 23-26, since screens are commonly formed from these type of optical films.

Claim 32/9-13, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1) in view of Reid et al.(U.S. Patent No. 5,256,337) and Lea et al. (U.S. Patent No. 5,551,042) as detailed in claim rejection 9-13 above.

Regarding claims 32/9-13, Kimura et al. discloses a projector(fig 29) containing a light source and a liquid crystal cell(fig 28, 143), a mirror for reflecting a light(fig 28, 147) from the projector, and a screen(fig 28, 123) for projecting the light reflected by the mirror, Kimura et al. does not disclose the screen being composed of an optical film of any one of claims 9-13. However, Reid et al. in view of Lea et al., as disclosed in claim rejections 9-13 above, discloses the screen being composed of an optical film as disclosed in claims 9-13. It would have been obvious to one skilled in the art at the time

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of the invention, to form the screen from an optical film as disclosed in claim rejections 9-13, since screens are commonly formed from these types of optical films.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 31/30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al.(U.S. Patent No. 6,195,196 B1)as applied to claim 30 above, and further in view of Reid et al.(U.S. Patent No. 5,256,337).

Regarding claims 31/30, Kimura et al., as detailed in claim rejection 30 above, does not disclose the optical film is any one of Claims 1 to 29. However, Reid et al. discloses the optical film is any one of Claims 1 to 29(col 3, lines 9-24). It would have been obvious to one skilled in the art, at the time of the invention, to use a light shield layer being composed of a gelatin material dispersing therein at least silver or a compound containing silver(col 16, lines 20 to 24), as shown by Reid et al., in the display of Kimura et al., since as shown by Reid et al., a light shield layer, composed of a gelatin material dispersing therein at least silver or a compound containing silver, is commonly used in displays for blocking light passing through the display.

Allowable Subject Matter

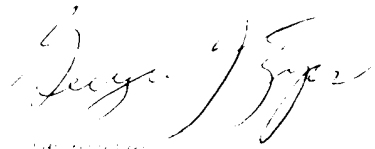
Claims 6-8, 14-21, 27-29 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularity or in combination fails to anticipate or fairly suggest the limitations of the independent claim, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claims 6-8, with the important feature being the diffusion layer. Therefore, claims 6-8, 14-21, 27-29 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (703) 305-0881. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (703) 308-4883.


Timothy J. Thompson
Examiner
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